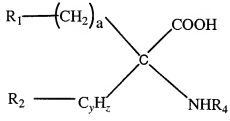
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

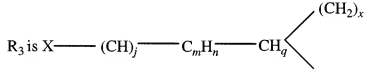
Listing of Claims:

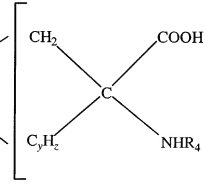
1. (currently amended) An amino acid analog having the general structure



where R_1 is X, X—HC≡CH—, or R_3

R_2 is H, or R_3 if R_1 is R_3.



such that R_3 

is formed,

R_4 is $\underline{CH_3}$, $-(C_kH_{2k+1})$, $-(C_kH_{2k-1})$ or $-(C_kH_{2k-3})$ where k = 2-5

And where a is 1 to 5,

x is 0 or 1,

y is 1 or 2,

z is 1, 2, 3 or 4 and z > y if y is 2,
q is 1 or 0 if n is 1 and j is 0,
n is 1 or 2, but 0 if m is 0,
m is 0 or 1
j is 0, 1, 2 or 3
~~k is 1-5~~ and
X is ^{18}F, ^{123}I, ^{124}I, ^{125}I, ^{131}I, ^{75}Br, ^{76}Br, ^{77}Br, ^{82}Br, or At

2. (Original) The compound of claim 1, wherein R_1 and R_2 are R_3.

3. (Original) The compound of claim 1, wherein x is 0
y is 1
z is 2
q is 1
m is 0 and j is 0.

4. (Original) The compound of Claim 3, wherein X is ^{18}F or ^{123}I.

5. (Original) The compound of Claim 3, wherein X is ^{18}F.

6. (Original) The compound of Claim 1, wherein R_1 and R_2 are R_3,
x is 0 or 1
y is 2
z is 4
q is 1
m and j are 0 and X is ^{18}F or ^{123}I.

7. (Original) The compound of claim 6, wherein x is 1 and X is ^{18}F.

8. (Original) The compound of Claim 6, wherein x is 0 and X is ^{123}I.

9. (Original) The compound of Claim 6, wherein x is 1 and X is ^{123}I.

10. (Original) The compound of Claim 1, wherein R1 and R2 are R3,

x is 0
y is 1
z is 2
q is 0
m is 1
n is1
j is 0 and X is ^{18}F or ^{123}I.

11. (Original) The compound of claim 10, wherein X is ^{18}F.

12. (Original) A compound according to claim 1 wherein R_1 and R_2 are R_3,

x is 1
y is 1
z is 1
q is 0
m and j are 0, and
X is ^{18}F or ^{123}I.

13. (Original) A compound according to claim 12 wherein X is ^{123}I.

14. (Original) A compound according to claim 1 wherein R1 and R2 are R_3,

x is 0
y is 1
z is 2
q is 1
m is 1

n is 1
j is 1, and
X is ^{18}F, or ^{123}I.

15. (Original) The compound of claim 14 wherein X is ^{123}I.

16. (Original) A compound according to claim 1 wherein R_1 and R_2 are R_3,
x is 0
y is 1
z is 2
q is 0
m is 0
j is 1, and
X is ^{18}F, or ^{123}I.

17. (Original) The compound of claim 16 wherein X is ^{123}I.

18. (Original) A compound according to claim 1 wherein R1 and R2 are R_3,
x is 0 or 1
y is 2
z is 4
q is 1
m is 1
n is 1
j is 1, and
X is ^{18}F, or ^{123}I.

19. (Original) The compound of claim 18 wherein X is ^{18}F.

20. (Original) The compound of claim 18 wherein X is ^{123}I.

21. (Original) A compound according to claim 1, wherein R_1 and R_2 are R_3,

x is 0 or 1

y is 2

z is 4

q is 0

m is 0

j is 1, and

X is ^{18}F, or ^{123}I.

22. (Original) The compound of claim 21 wherein X is ^{18}F.

23. (Original) The compound of claim 21 wherein X is ^{123}I.

24. (Original) A compound of claim 1 wherein R_1 and R_2 are not R_3.

25. (Original) A compound according to claim 24 wherein X is ^{18}F.

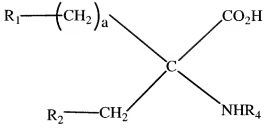
26. (Original) A compound according to claim 1 wherein R_1 is X-CH=CH-, R_2 is H, y is 1 and z is 2.

27. (Original) The compound of claim 26 wherein X is ^{123}I.

28-44. Canceled

45. (Original) The compound of claim 1, wherein R_1 is ^{18}F, R_2 is H, y is 1, z is 2, and R_4 is $-CH_3$.

46. (withdrawn) An amino acid analog having the general structure



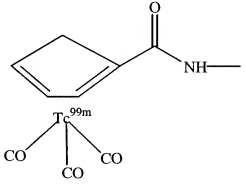
where R_1 is Z, a is 1 to 5,

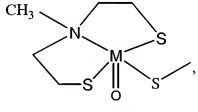
R_4 is $-(C_kH_{2k+1})$,$-(C_kH_{2k-1})$ or $-(C_kH_{2k-3})$, and

R_2 is $-(C_kH_{2k+1})$, $-(C_kH_{2k-1})$, or $-(C_kH_{2k-3})$

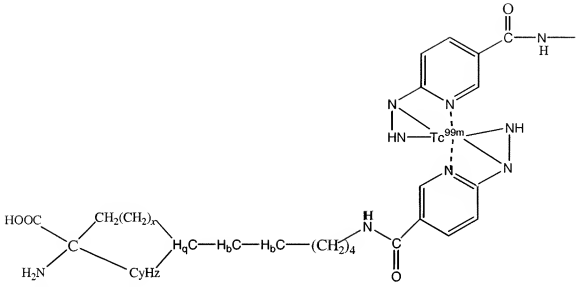
k is 1-5.

Z is





M = ^{99m}Tc



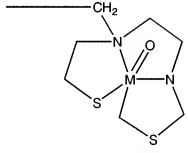
where b is 0, 1 or 2

x is 0 or 1

y is 1 or 2

z is 1, 2, 3, or 4 and z>y if y is 2,

q is 0 or 1

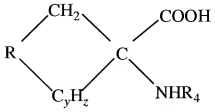


M = Tc or Re

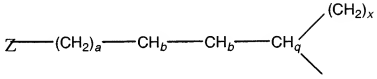
47. (Original) A method of in situ tumor imaging by positron emission tomography comprising:

administering to a subject suspected of having a tumor an image-generating amount of a compound according to claim 1, and measuring the distribution of the compound in the subject by positron emission tomography.

48. (withdrawn) An amino acid analog having the general structure



where R is



where a is 1, 2 or 3

b is 0, 1 or 2

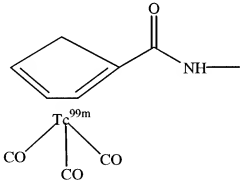
x is 0 or 1

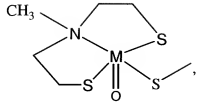
y is 1 or 2

z is 1, 2, 3 or 4 and z>y if y is 2,

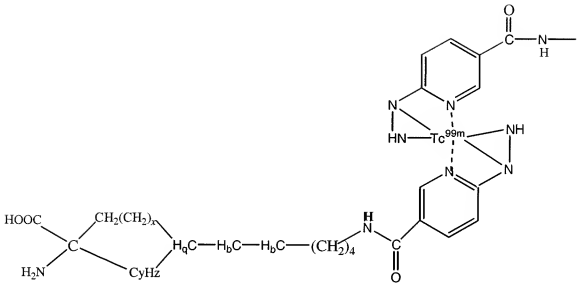
q is 1 or 0

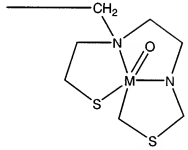
R_4 is $-(C_kH_{2k+1})$,$-(C_kH_{2k-1})$ or $-(C_kH_{2k-3})$, and Z is





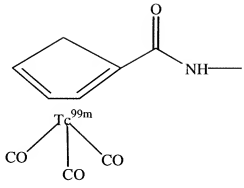
M = ^{99m}Tc



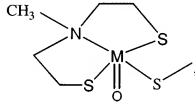


M = Tc or Re

49. (withdrawn) The compound of claim 48 wherein Z is

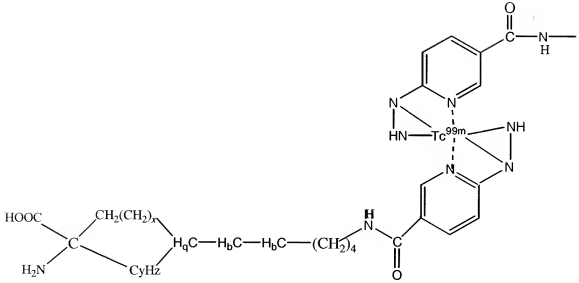


50. (withdrawn) The compound of claim 48 wherein Z is



M = ^{99m}Tc

51. (withdrawn) The compound of claim 48 wherein Z is



where a is 1, 2 or 3

b is 0, 1 or 2

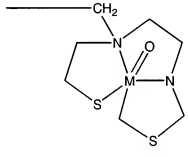
x is 0 or 1

y is 1 or 2

z is 1, 2, 3 or 4 and z>y if y is 2,

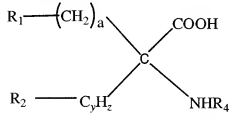
q is 1 or 0

52. (withdrawn) The compound of claim 48 wherein Z is



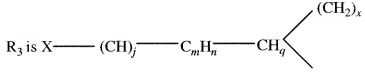
M = Tc or Re

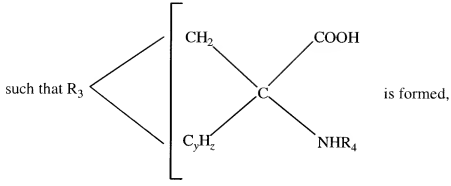
53. (new) An amino acid analog having the general structure



where R_1 is X, X——HC≡CH——, or R_3

R_2 is H, or R_3 if R_1 is R_3.





where R_4 is $-(C_kH_{2k+1})$ where k is 3-5, and where R_4 is $-(C_kH_{2k-1})$ or $-(C_kH_{2k-3})$ where k = 2-5

and where

a is 1 to 5,

x is 0 or 1,

y is 1 or 2,

z is 1, 2, 3 or 4 and z > y if y is 2,

q is 1 or 0 if n is 1 and j is 0,

n is 1 or 2, but 0 if m is 0,

m is 0 or 1

j is 0, 1, 2 or 3 and

X is ^{18}F, ^{123}I, ^{124}I, ^{125}I, ^{131}I, ^{75}Br, ^{76}Br, ^{77}Br, ^{82}Br, or At.